

**DRAFT SCREENING SITE INVESTIGATION
FOR THE
LIBERTY SMELTING COMPANY SITE
614 BROWN STREET
PHILADELPHIA, PENNSYLVANIA
ECKEL SITE NUMBER 310**

Prepared for

U.S. Environmental Protection Agency Region 3
Hazardous Site Cleanup Division
1650 Arch Street
Philadelphia, PA 19103

Prepared by

Tetra Tech EM Inc.
7 Creek Parkway, Suite 700
Boothwyn, PA 19061

Remedial Action Contract No. 68-S7-3002
Work Assignment No. 048-PAPA-03ZZ
Project No. I4185.47502.0903

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1.0 INTRODUCTION

Under Remedial Action Contract (RAC) No. 68-S7-3002, Work Assignment No. 048-PAPA-03ZZ, U.S. Environmental Protection Agency (EPA) Region 3 tasked Tetra Tech, Inc. (Tt), to assist EPA Region 3 in the assessment of properties suspected to have been former lead smelter foundries. Tt subcontracted completion of this work assignment to Tetra Tech EM Inc. (Tetra Tech).

Former lead smelter sites nationwide were identified in an April 2001 article published in the American Journal of Public Health by Eckel, and others (Eckel study) (Reference [Ref.] 1). The majority of these lead smelters operated prior to 1964 and closed before the current environmental regulations were instituted. As part of the Eckel study, soil samples were collected from several of the identified former lead smelter properties. Results from the analysis of these soil samples indicated that concentrations of lead exceeded EPA's recommended screening level for lead in residential soils. The results of the Eckel study indicate that the air disposition of lead into soils from the former smelter operations may present an ongoing public health concern due to exposure of residential populations, especially children, located in the vicinity of these former lead smelters, to soils containing elevated concentrations of lead (Refs. 1, 2, and 3).

The Eckel study identified 77 properties that may have been formerly used as lead smelters within EPA Region 3 (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia). EPA Region 3 is currently investigating these 77 properties. The objective of EPA's investigation of these properties is to (1) determine the potential for lead-contaminated soil to be present at the former lead smelter site or nearby properties (2) identify any populations that may be at risk to exposure to this soil, and (3) determine if soil sampling is warranted at any of these sites or nearby properties.

The following activities were completed as part of the initial screening investigation of each of these former lead smelter sites: (1) verify the former lead smelter address listed in the Eckel

study through historical Sanborn fire insurance maps, tax parcel information, and/or contacting local agencies, (2) determine if the site is listed in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, (3) determine through census information and existing maps the number of schools, daycare centers or recreational parks that exist near the former lead smelter site, (4) determine the population residing within a 4-mile radius of the site, (5) conduct a windshield reconnaissance of the site and surrounding area to document the current land use, identify any exposed soil and verify the existence of any schools, daycare centers or parks in the immediate area, and (6) review all information acquired to determine if the collection and analysis of soil samples is warranted at the site or at any nearby property.

This report summarizes the findings of the tasks outlined above for the former lead smelter known as the Liberty Smelting Company site located at 614 Brown Street, Philadelphia, Pennsylvania 19123. Each former smelter property was given a number in Eckel's study. The Eckel study number for this site is 310 (Ref. 1).

2.0 SITE LOCATION

The former Liberty Smelting Company facility was located at 614 Brown Street, Philadelphia, Pennsylvania 19123. The geographic coordinates of the former Liberty Smelting Company are 39.964649 north latitude and 75.148539 west longitude on the Philadelphia and Camden, Pennsylvania – New Jersey Quadrangles, 7.5 minute series, United States Geological Survey topographic maps (see Appendix A, Figure 1). The site is not currently listed in EPA's CERCLIS database (Ref. 4). An aerial photograph of the vicinity of the former lead smelter site has been included in Appendix A, Figure 2. This aerial photograph reveals the exposed soils and any identified areas of potential concern such as schools, daycare centers, or parks located within a half-mile radius of the site.

3.0 SITE OBSERVATIONS

On December 12, 2005, Tetra Tech completed a non-sampling windshield reconnaissance of the Liberty Smelting Company site and surrounding area. A photographic record of the current site conditions is included in Appendix B. Figure 3, shows the current layout of the site and surrounding area as observed during Tetra Tech's site reconnaissance. The following observations were recorded:

- The site currently consists of a residential building. The site is located in an area of Philadelphia occupied by both residential and commercial areas.
- Along the southern side of Brown Street, west of the former lead smelter property are residential row homes. North of the site, across Brown Street, is the Saint Nicholas Orthodox Church. East of the site are additional residential row homes and Kearny Elementary School. South of the property are commercial structures.
- Exposed soils were identified on the site and in the nearby vicinity. Residential properties in the immediate vicinity of the site have associated areas of exposed soils.
- The Delaware River a tributary to the Delaware Bay, is located approximately three-quarters of a mile southeast of the site.
- The Kearny School is located one block southeast of the site. No parks or daycare facilities were identified in the immediate vicinity of the site.

4.0 POTENTIAL TARGETS

Potential targets identified that may be exposed to lead-contaminated soils remaining in the vicinity of the former Liberty Smelting Company site include the nearby residential population. The population within a 4-mile radius of the site is summarized in the table below (Ref. 5).

Population within a Four-mile Radius of the Site

Distance Ring (miles)	Population (number of persons)
0.0 – 0.25	2,568
0.25 – 0.5	6,164
0.5 – 1.0	22,547
1.0- 2.0	156,460
2.0 - 3.0	243,563
3.0 – 4.0	227,354

Source: U.S. Department of Commerce. Landview V Environmental Mapping Software based on the Bureau of Census 2000 Population Data. December 7, 2005.

The Kearny School is located one block southeast of the site. No parks or daycare facilities were identified in the immediate vicinity of the site. Six schools have been identified within one-half mile of the site. Saint Agnes School and Paxson School are located approximately one-quarter mile east and south of the site respectively. Cornman School, Jefferson School, and Madison School are between one-quarter and one-half mile of the site west, northeast, and southeast respectively. Edgar Allen Poe National Historical Site is located approximately one-quarter mile southwest of the site.

5.0 FINDINGS AND RECOMMENDATIONS

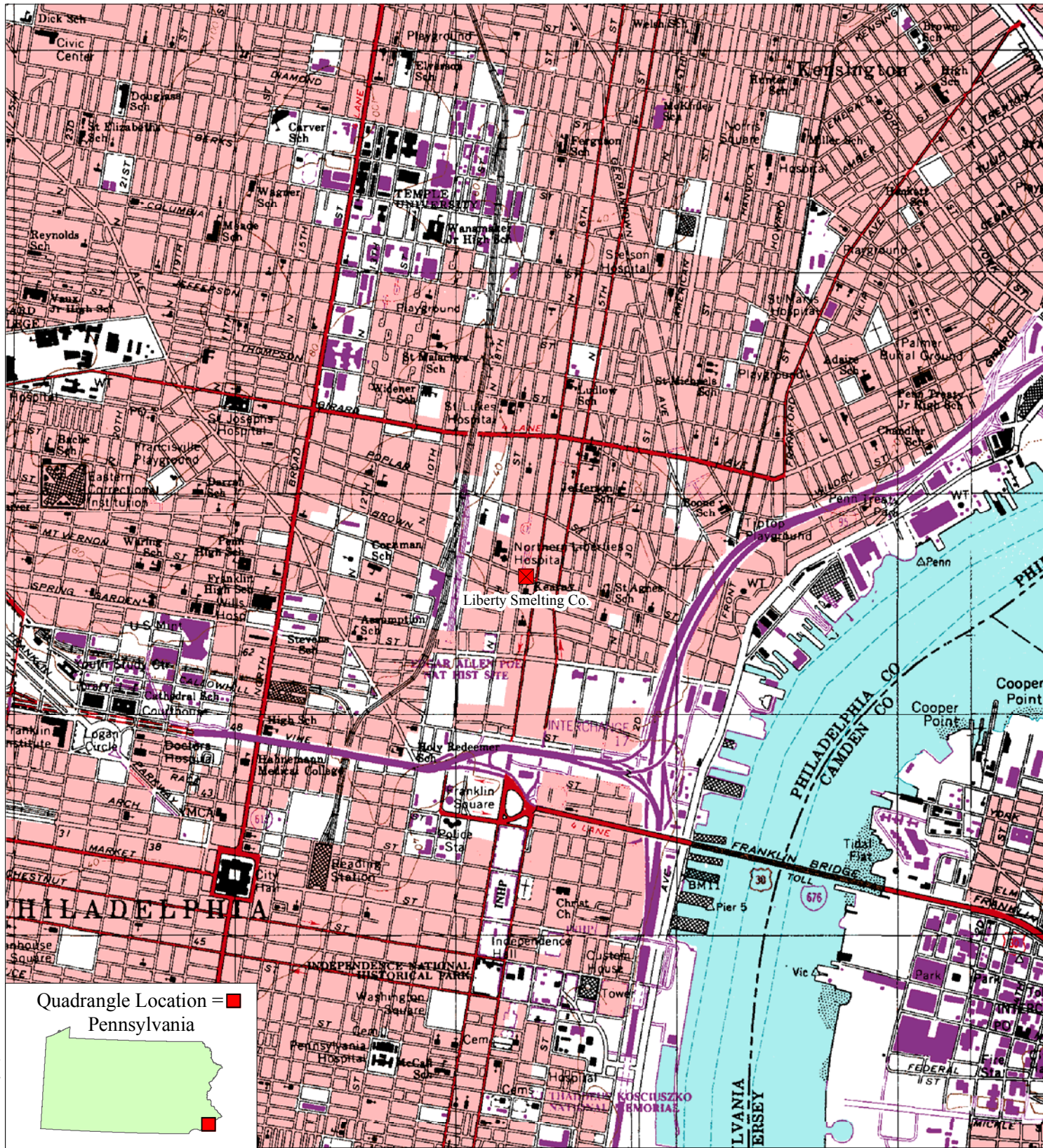
The property is located in a mixed commercial/residential area of Philadelphia. Exposed soils were observed on the former lead smelter property, which is now a residential property, and in areas directly surrounding the site. The Kearny School was identified one block southeast of the site. To determine if there is a threat to the populations located in the vicinity of the former lead smelter site, it is recommended that soil samples be collected from exposed soils and analyzed for lead levels.

REFERENCES

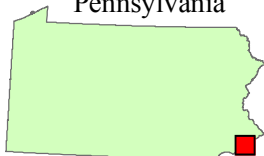
1. Eckel, W.P., Rabinowitz, M.B., Foster, G.D. American Journal of Public Health. "Discovering Unrecognized Lead-Smelting Sites by Historical Methods". April 2001.
2. Pennsylvania Department of Health. Suspected Former Lead Smelter Sites: A Potential Risk Factor for Childhood Lead Poisoning. August 2004.
3. U.S. Environmental Protection Agency (EPA). Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9355.4-12. July 14, 1994.
4. U.S. EPA. Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) database. On-Line Address: <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>
5. U.S. Census Bureau. State and County Quick Facts. Accessed On-Line on December 7, 2005. On-Line Address: quickfacts.census.gov/qfd/states/42.html.

Appendix A

Figures



Quadrangle Location = ■
Pennsylvania



0 1,000 2,000
Feet

Scale in Feet

Liberty Smelting Company
614 Brown Street
Philadelphia, Pennsylvania
Eckel Site No. 310

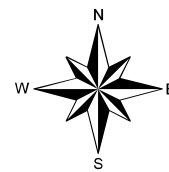


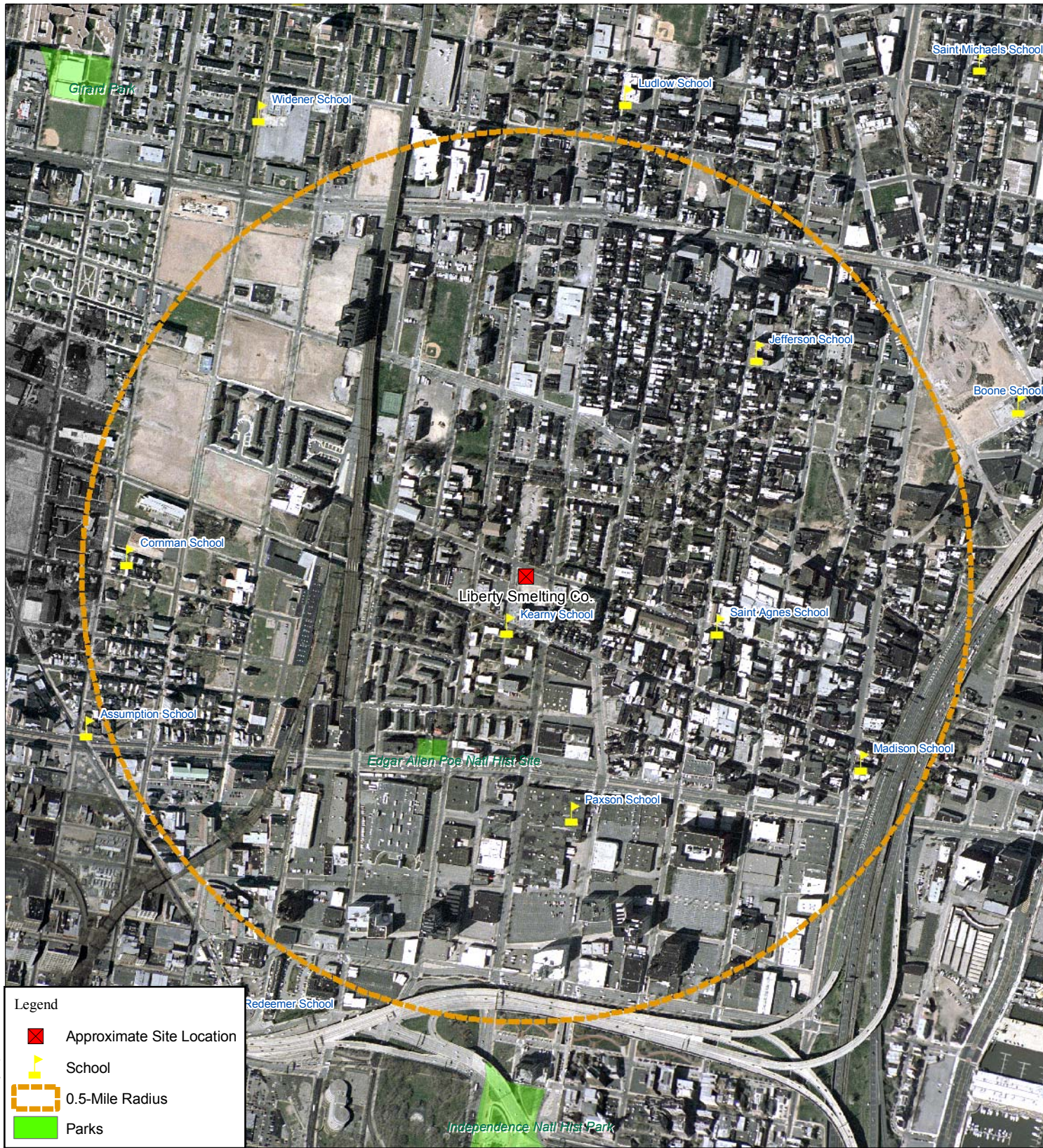
Figure 1
Site Location Map



Source: Modified from USGS, Philadelphia and Camden,
Pennsylvania-New Jersey Quadrangles, 1995.



TETRA TECH EM INC.



Legend

- Approximate Site Location
- School
- 0.5-Mile Radius
- Parks

0 400 800
Feet
Scale in Feet

Liberty Smelting Company
614 Brown Street
Philadelphia, Pennsylvania
Eckel Site No. 310

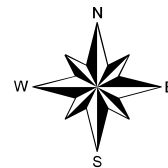
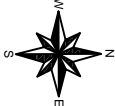
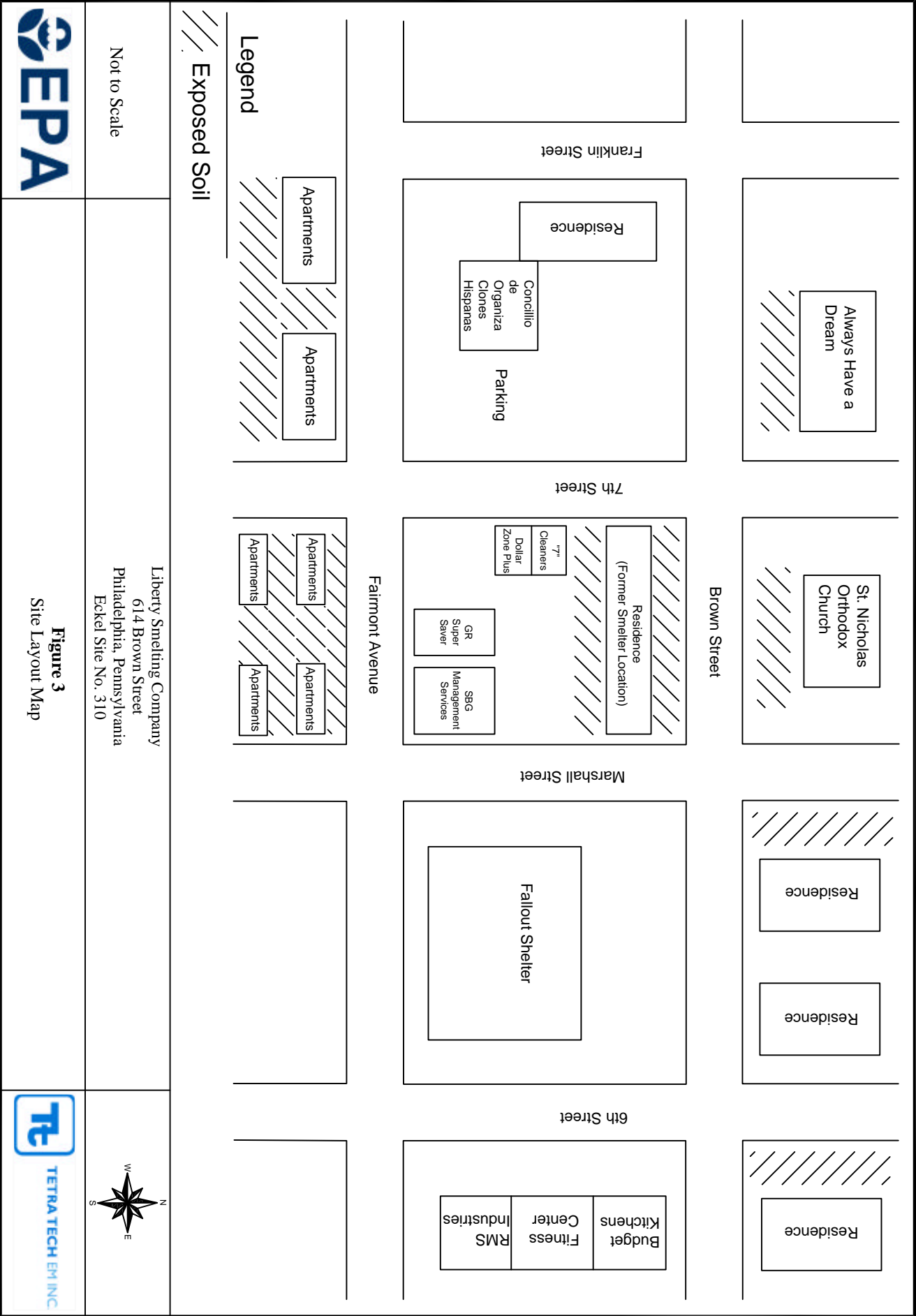


Figure 2
Aerial Photograph



Source: Modified from USGS, 2002, and ESRI, 2005



Liberty Smelting Company
614 Brown Street
Philadelphia, Pennsylvania
Eckel Site No. 310

Not to Scale

Figure 3
Site Layout Map

Appendix B
Photographic Documentation



Photographic Documentation

Site Name: Eckel Number 310 - Liberty Smelting Company

Location: 614 Brown Street, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.

Photographer: [REDACTED]

Photograph No. 1

Photograph Date:

October 21, 2005

Description: View of former Liberty Smelting Company property, which is currently occupied by a row home.



Photograph No. 2

Photograph Date:

October 21, 2005

Description: Row homes on the same block as the former Liberty Smelting Company property.





Photographic Documentation

Site Name: Eckel Number 310 - Liberty Smelting Company

Location: 614 Brown Street, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.

Photographer: [REDACTED]

Photograph No. 3

Photograph Date:

October 21, 2005

Description: Row homes located along Hoffman Place, which is northeast of the former Liberty Smelting Company property.



Photograph No. 4

Photograph Date:

October 21, 2005

Description: Intersection of Brown Street and Marshall Street.





Photographic Documentation

Site Name: Eckel Number 310 - Liberty Smelting Company

Location: 614 Brown Street, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.

Photographer: [REDACTED]

Photograph No. 5

Photograph Date:

October 21, 2005

Description: View of Kearney Elementary School.



Photograph No. 6

Photograph Date:

October 21, 2005

Description: Saint Nicholas Orthodox Church, which is located north of the former Liberty Smelting Company property on Brown Street.

